ICF-C255RC

SERVICE MANUAL

AEP Model

Ver 1.0 2000. 05

SPECIFICATIONS

Time display
24-hour system

Frequency range

Band	Frequency	Channel step
FM	87.5-108 MHz	0.05 MHz
AM(MW)	531-1 602 kHz	9 kHz
LW	153 - 279 kHz	9 kHz

Speaker
Approx. 6.6 cm (2 5/8 in.) dia., 8 Ω

Power output
200 mW (at 10% harmonic distortion)

Power requirements
220–230 V AC, 50 Hz

Dimensions
Approx. 180.5 × 55 × 140 mm (w/h/d)
(7 1/8 × 2 1/4 × 5 5/8 in.)
incl. projecting parts and controls

Mass
Approx. 730 g (1 lb. 10 oz.)

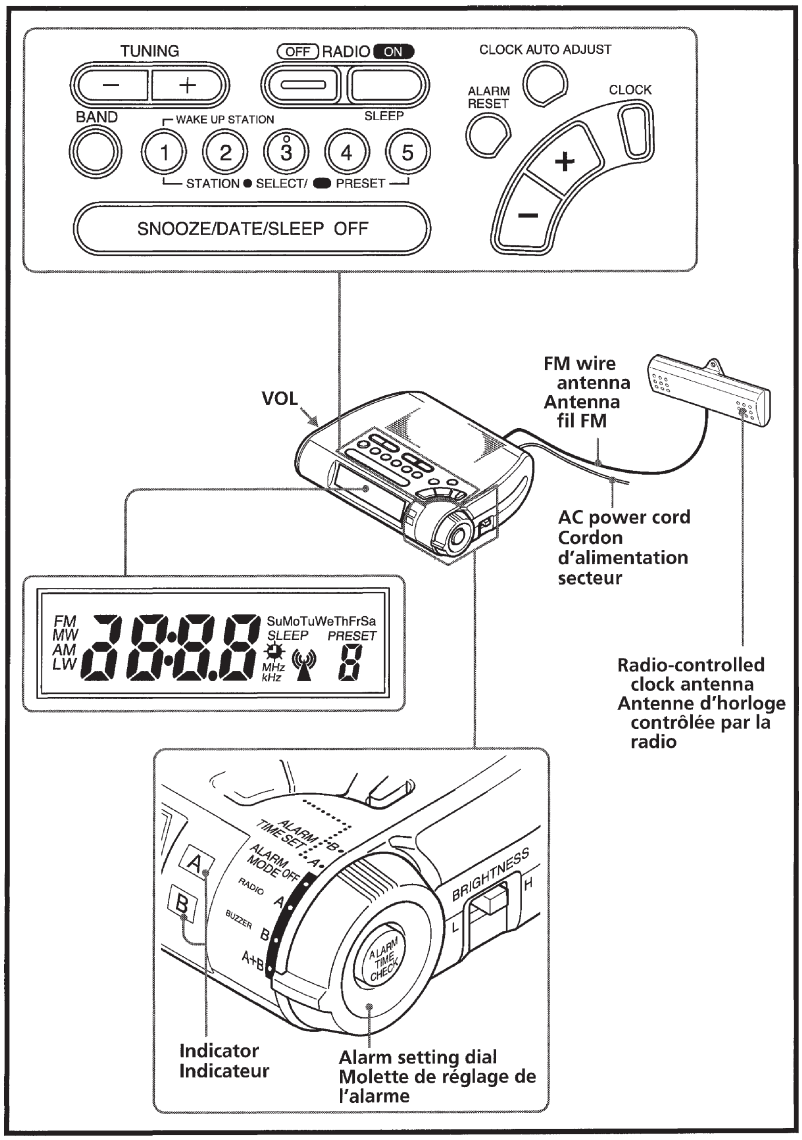
Design and specifications are subject to change without notice.

FM/MW/LW RADIO CONTROLLED CLOCK RADIO

SONY®

SECTION 1
GENERAL

This section is extracted from instruction manual.



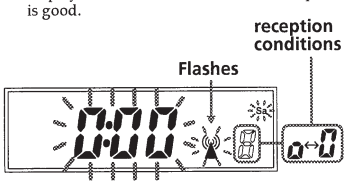
Setting the Clock and Date

When the unit is plugged in, "0:00," "Sa," and "" will flash in the display.

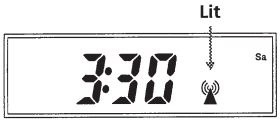
To Set the Clock and Date Automatically

This radio is equipped with a radio-controlled clock-auto-adjust system.
The clock-auto-adjust receives standard time data (year, month, day, hour, minute, second, and D.S.T.) on a prescribed frequency, and uses that to automatically reset the clock.

1 Plug in the unit.
The Clock Auto Adjust function activates automatically. "" will flash in the display. It takes about three minutes from the moment that reception starts until the displayed time is correct even if the reception is good.



2 When clock adjustment is completed, the clock will start to operate. "" will stop flashing and remain in the display.



To stop Clock Auto Adjust during adjustment
Press **CLOCK AUTO ADJUST**.
"" will disappear from the display.

Notes
- When the radio is operated, the Clock Auto Adjust system does not function. If you turn on the radio while the Clock Auto Adjust function is activating , the unit stops receiving time signals.
- When the alarm setting dial is set to **ALARM TIME SET A** or **B**, the Clock Auto Adjust system does not function.

To initiate Clock Auto Adjust manually
Press **CLOCK AUTO ADJUST**.
"" will flash in the display. When the Clock Auto Adjust process is completed, the clock will be corrected, if needed, and "" will stop flashing and remain lit in the display.
If the radio fails to receive time signals for 12 minutes, the clock will remain unchanged, and "" will disappear from the display.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer.

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
4. Look for parts which, through functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
5. Check the B+ voltage to see it is at the values specified.
6. Flexible Circuit Board Repairing
   - Keep the temperature of the soldering iron around 270°C during repairing.
   - Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
   - Be careful not to apply force on the conductor when soldering or unsoldering.

To check reception

The display shows reception conditions when time signals are being received (when the power cord is inserted in a wall socket, or **CLOCK AUTO ADJUST** is pressed).

Display	Reception
Changes regularly between "⌂" and "⌂" at one second intervals	Good
"⌂" or "⌂" stays on, or intervals between changes are longer than one second or irregular	Defective
The change between "⌂" and "⌂" takes less than one second or occurs irregularly	Defective

To improve reception

Reception is governed in large part by where the radio-controlled clock antenna is set up and which direction it is pointed in.

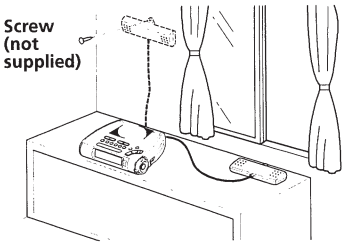
Location of radio-controlled clock antenna setup:

If the installation is within a building made of reinforced concrete, reception will be weaker the farther the antenna is from a window. To improve reception, place the antenna as close as possible to the window.

Direction the antenna faces:

Reception changes depending on the direction that the antenna is facing. Look at the display window to check reception, and turn the antenna so that it faces in the direction where reception is most stable.

Reception may be poor when the antenna is placed on a metal surface such as that of a steel desk.



Notes

Reception may be impossible in these locations:

- Close to television sets, personal computers, refrigerators or similar electrical appliances and equipment.
- Close to high voltage wires or overhead power lines.
- Locations where there could be interference with electrical signals such as construction sites, airports or any other place where there is a large volume of traffic.

Location of transmitting source

Time signals are transmitted from the following location:

Mainflingen, Germany
50° 0.1′ N, 09° 00′ E

The strength of time signals changes according to time of reception(you will get better reception in the nighttime). If the clock is not set or corrected automatically after you change the location or direction of the radio-controlled clock antenna, wait a while and see if you get better reception at a later time.

Automatic updating of time data

The Dream Machine is equipped with the Clock Auto Adjust system that automatically receives time signals during the nighttime, the time when reception is best. The system makes nine corrections every hour from 8 p.m. to 4 a.m. During automatic operation, "⌂" does not flash on and off. If the Clock Auto Adjust system is unable to receive the time signals for 24 hours, "⌂" goes off. For improved reception, move the radio-controlled clock antenna to another position or change the direction it is facing.

Notes

- The Clock Auto Adjust system will not work when the radio is operated. If the radio is operated while the clock auto-adjust is running, the auto-adjust will be canceled.
- Automatic updating cannot be manually cancelled.

On daylight Saving Time adjustment

The Clock Auto Adjust system automatically switches the clock indication to Daylight Saving Time (summer time), and back, at the necessary time of the year.

"☼" will be displayed when the clock is in Daylight Saving Time.

Note

According to reception conditions, the actual adjustment to or from Daylight Saving Time by the Clock Auto Adjust system may be done later than the exact moment of transition in the yearly calendar.

To Set the Clock and Date Manually

1. Set the alarm setting dial to **ALARM MODE OFF**.
2. Plug in the clock radio.
   The display will flash "0:00".
3. Press **CLOCK** for a few seconds.
   You will hear a beep and the year will start to flash in the display.
4. Press **CLOCK +** or **–** until the correct year appears in the display.
5. Press **CLOCK** once.
6. Repeat steps **4** and **5** to set the month, day, hour, and minute.
   After setting the minute, press **CLOCK** to start the counting of the seconds, and you will hear two short beeps.

- To set the current time rapidly, hold down **CLOCK +** or **–**.
- In step **6**, when you press **CLOCK** after the minute setting to activate the clock, the seconds start counting from zero.
- When the alarm setting dial is set to **ALARM TIME SET A** or **B**, the clock cannot be set.

Note

The clock is set to automatically receive time signals and will continue to do so even if it is manually reset.

To display the year and date

Press **SNOOZE/DATE/SLEEP OFF** once for the date, and within 2 seconds press it again for the year.

The display shows the date or year for a few seconds and then changes back to the current time.

To set the brightness of the backlight

Set **BRIGHTNESS** for the display to **H** (high) or **L** (low) according to your preference.

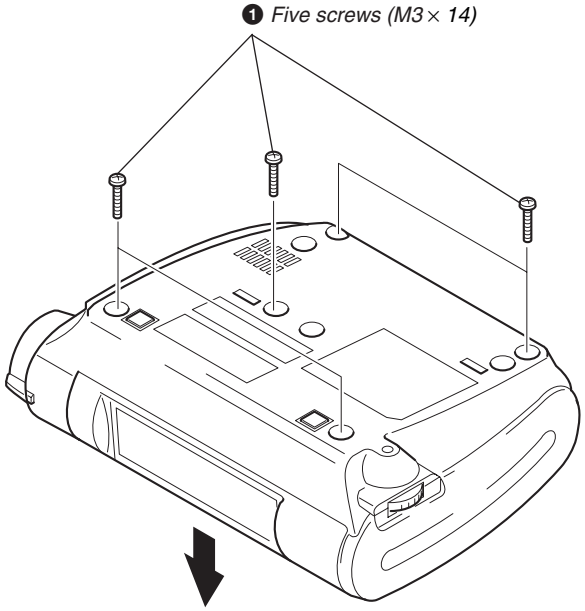
SECTION 2
DISASSEMBLY

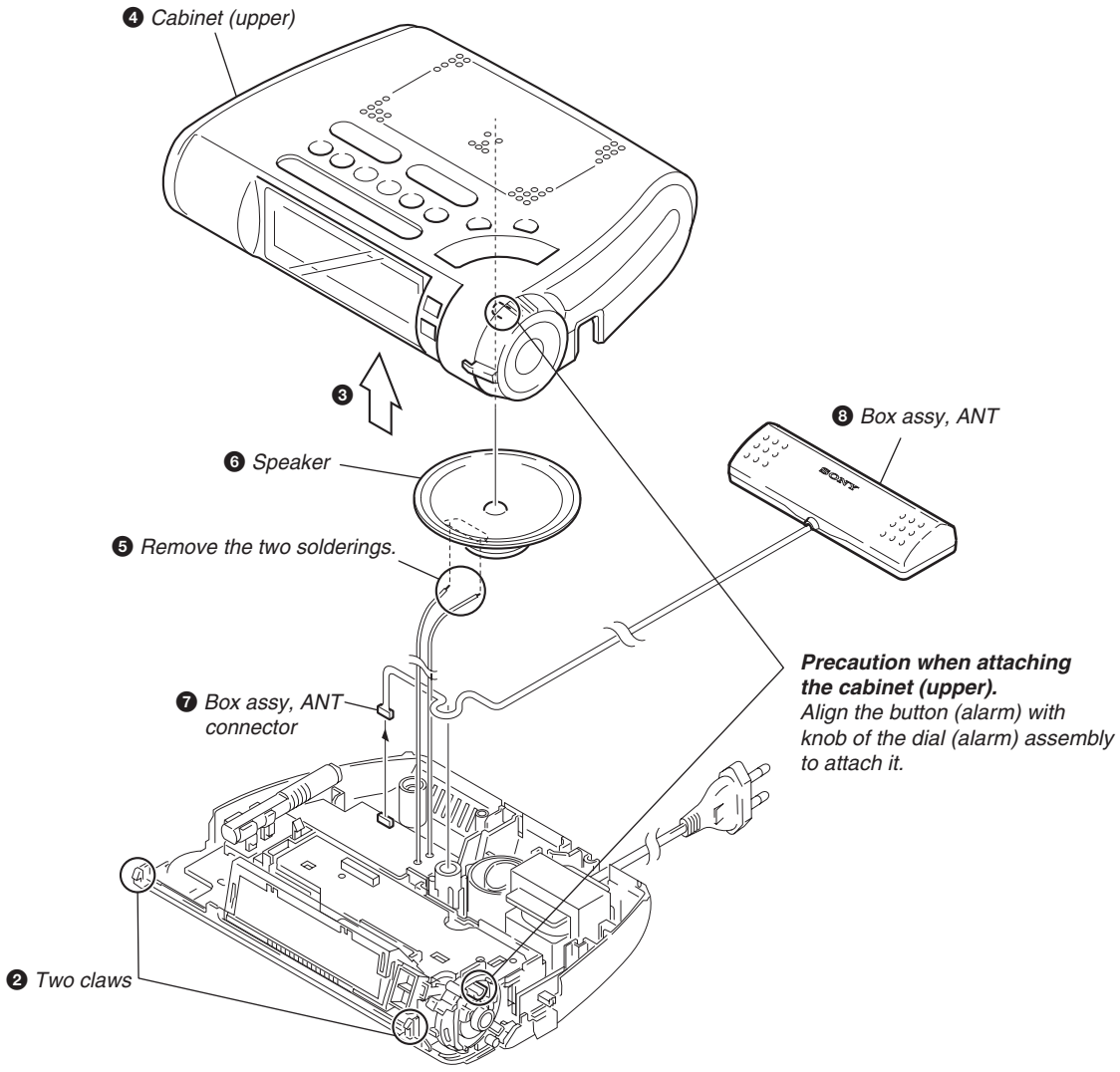
• The equipment can be removed using the following procedure.

Set → *Cabinet (upper)* → *Ferrite rod antenna board* / *Key board* → *Main board* → *Power board*

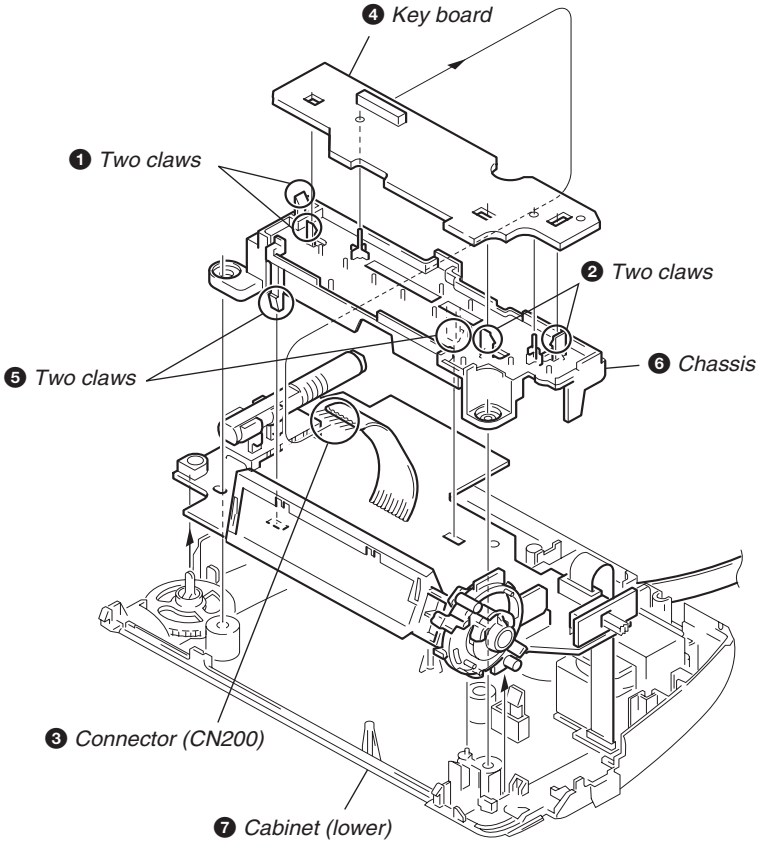
Note : Follow the disassembly procedure in the numerical order given.

2-1. CABINET (UPPER)

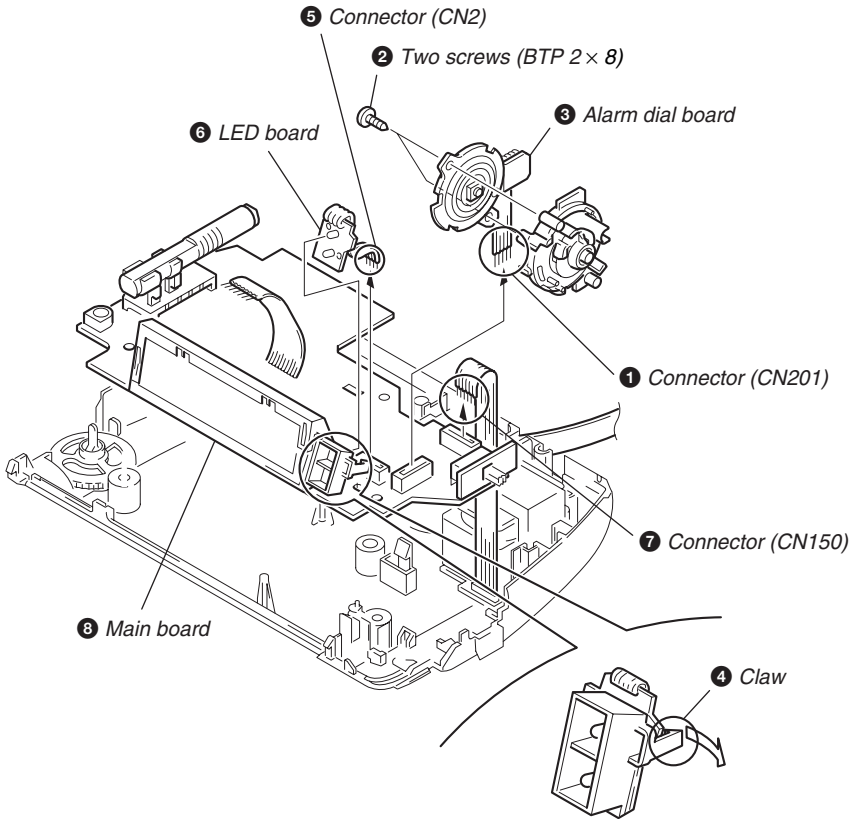



❹ Cabinet (upper)
❸
❽ Box assy, ANT
❻ Speaker
❺ Remove the two solderings.
❼ Box assy, ANT connector
❷ Two claws
Precaution when attaching the cabinet (upper).
Align the button (alarm) with knob of the dial (alarm) assembly to attach it.

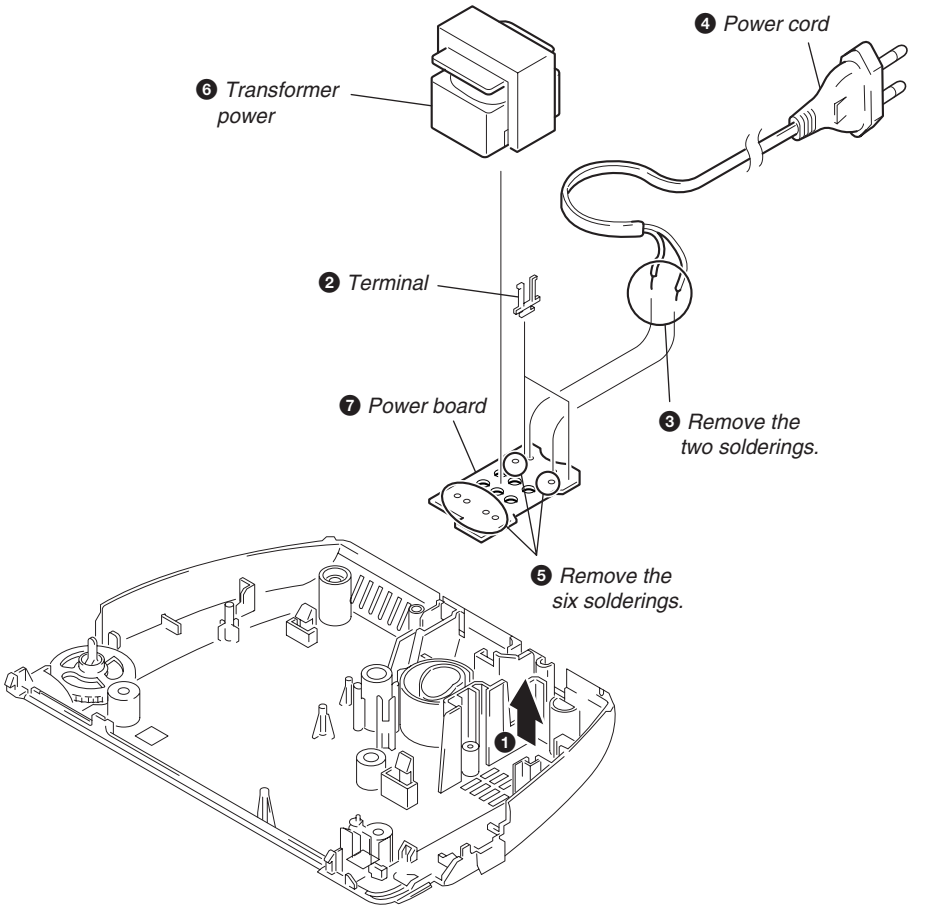
2-2. KEY BOARD



2-3. MAIN BOARD



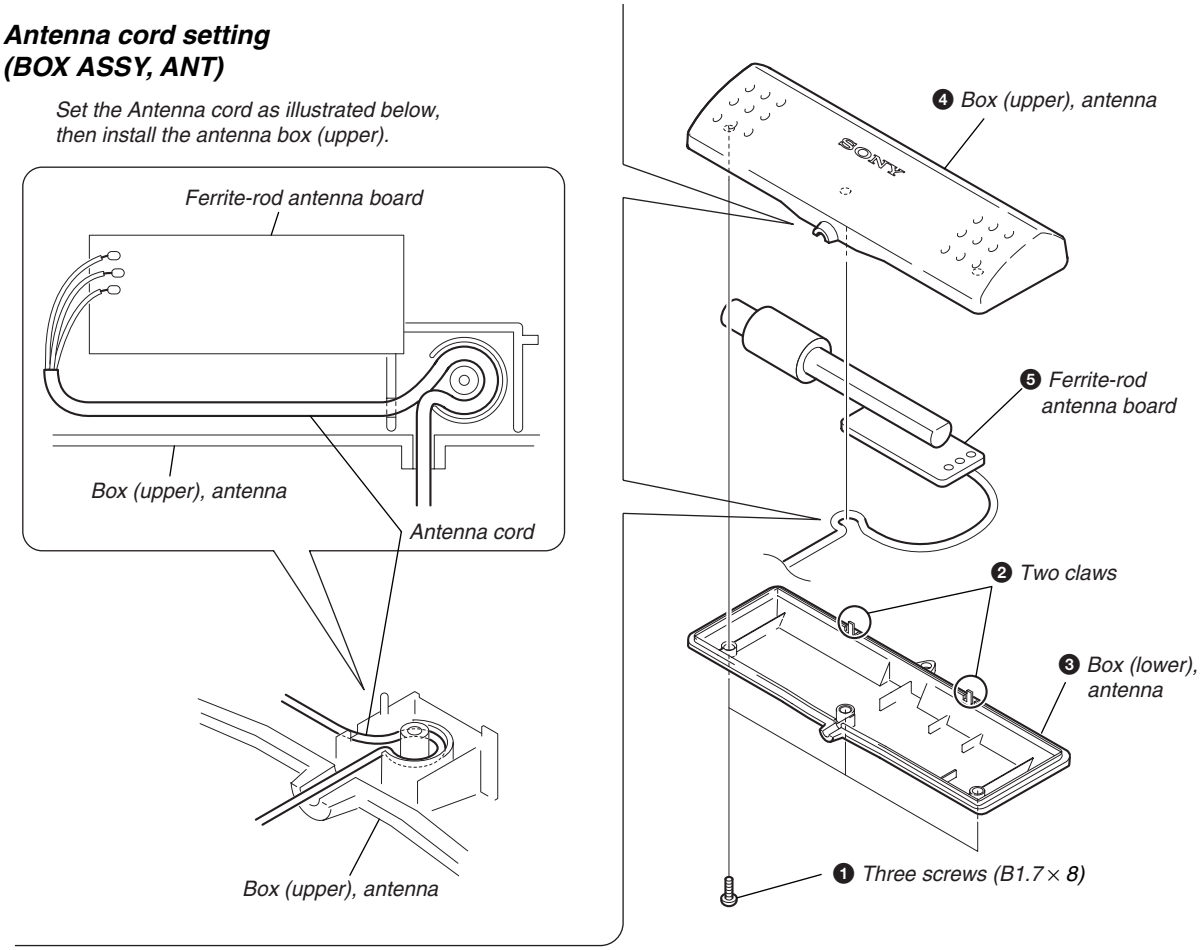
2-4. POWER BOARD



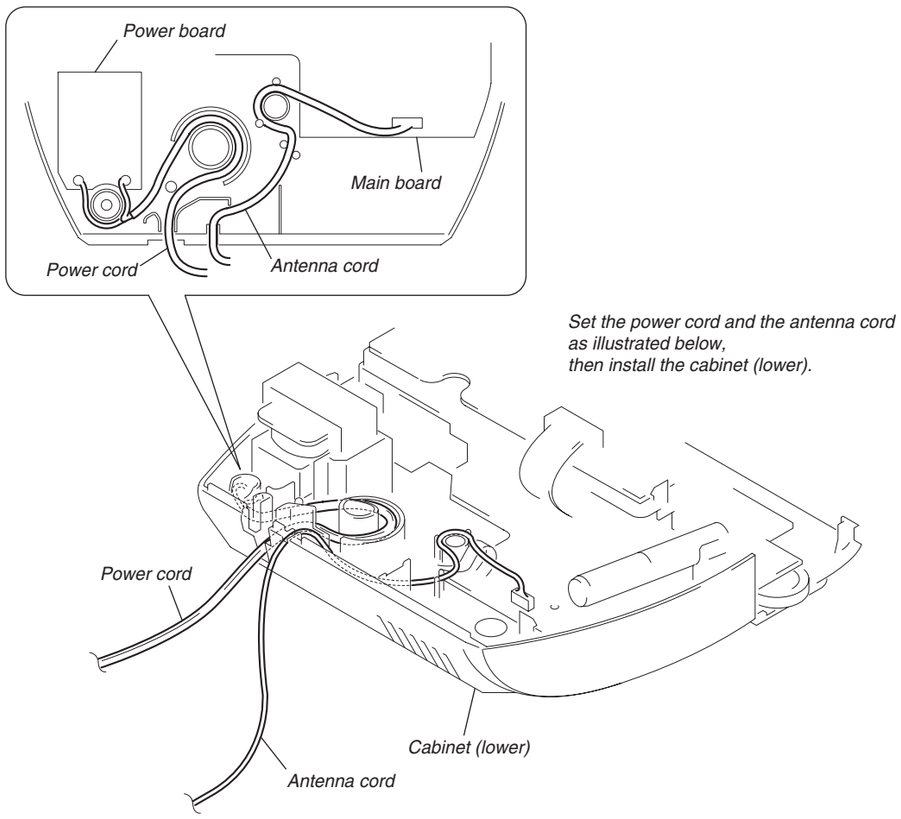
2-5. FERRITE ROD ANTENNA BOARD

Antenna cord setting (BOX ASSY, ANT)

Set the Antenna cord as illustrated below, then install the antenna box (upper).

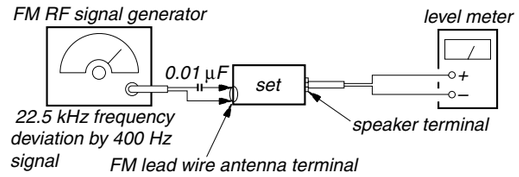


2-6. POWER CORD AND ANTENNA CORD SETTING

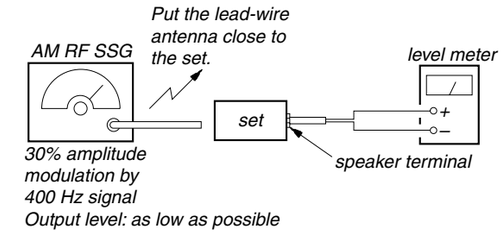


SECTION 3
ELECTRICAL ADJUSTMENTS

[FM]
Setting:
BAND switch: FM



[MW/LW]
Setting:
BAND switch: MW/LW



Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L3	CT3
87.5 MHz	108 MHz

AM IF ADJUSTMENT
Adjust for a VT VOLTAGE 2.65 ± 0.1V on volt meter.
T1
5450 kHz

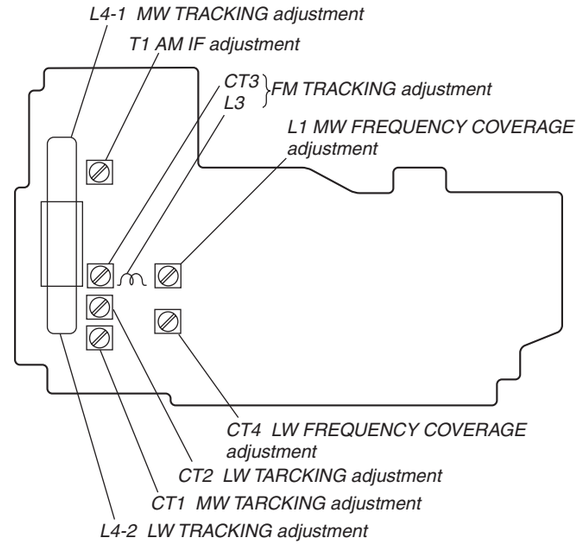
MW FREQUENCY COVERAGE ADJUSTMENT
Adjust for a VT VOLTAGE 2.25 ± 0.05V on volt meter.
L1
531 kHz

MW TRACKING ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L4-1	CT1
621 kHz	1,404 kHz

LW FREQUENCY COVERAGE ADJUSTMENT
Adjust for a maximum reading on level meter.
CT4
153 kHz

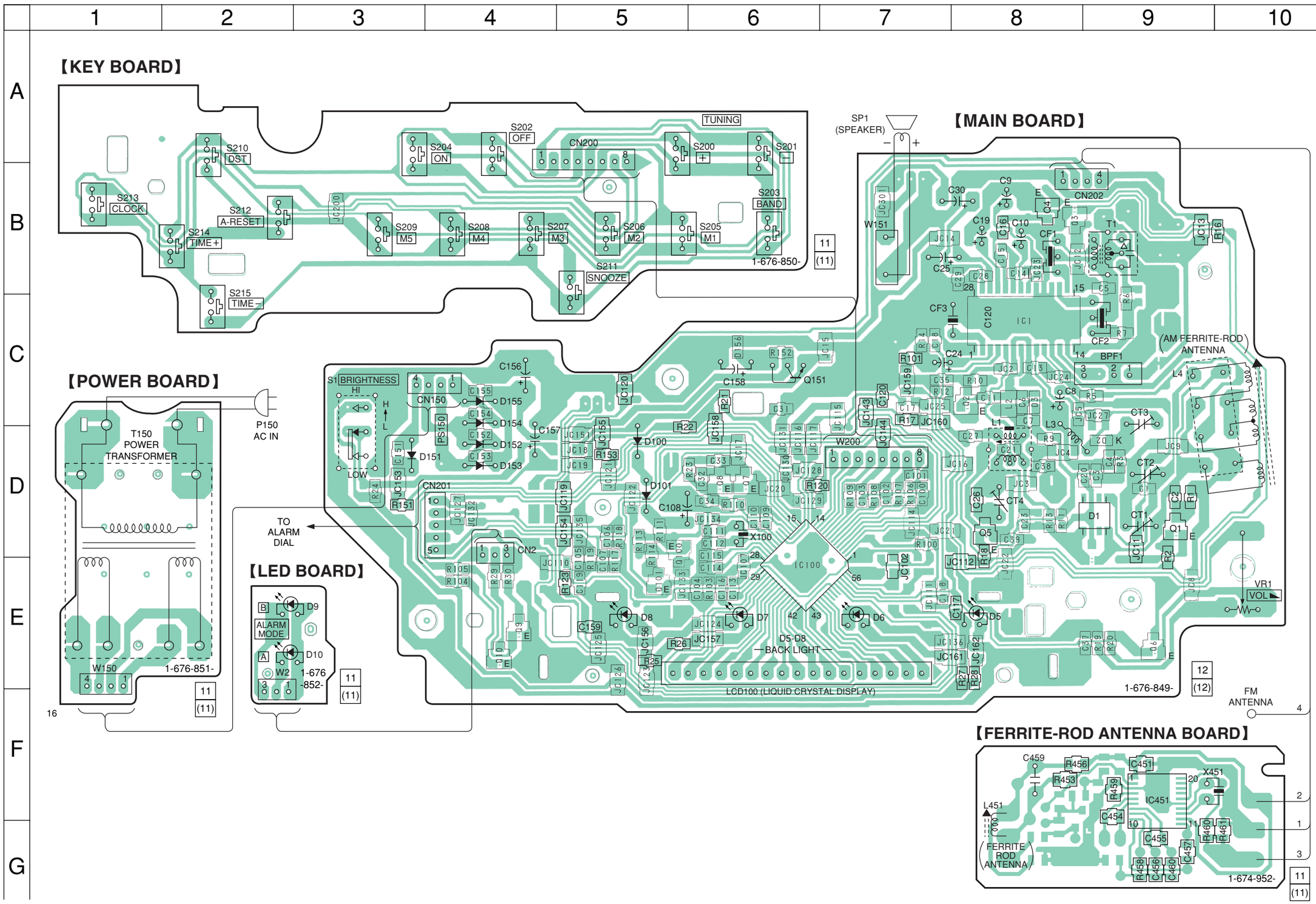
LW TRACKING ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L4-2	CT2
162 kHz	243 kHz

- **Adjusting Location:** MAIN board (Component Side)



SECTION 4
DIAGRAMS

4-1. PRINTED WIRING BOARDS

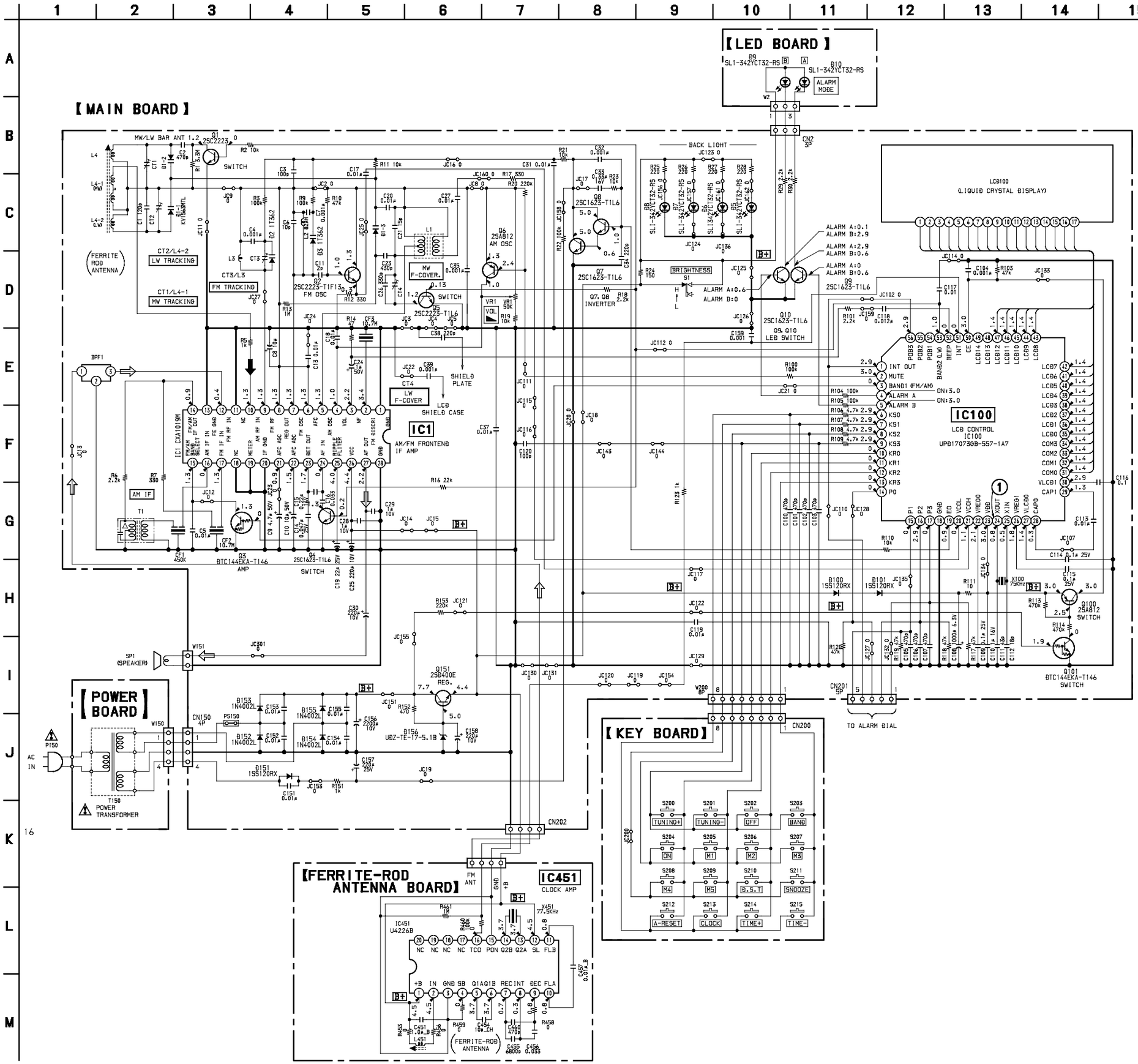


• Semiconductor Location

Ref. No.	Location
D1	D-9
D5	E-8
D6	E-7
D7	E-6
D8	E-5
D9	E-3
D10	E-3
D100	D-5
D101	D-5
D151	D-4
D152	D-4
D153	D-4
D154	C-4
D155	C-4
D156	
IC1	C-8
IC100	E-6
Q1	D-9
Q2	C-7
Q3	B-8
Q4	B-8
Q5	D-8
Q6	E-9
Q7	D-6
Q8	D-6
Q9	E-4
Q10	E-4
Q100	E-5
Q101	E-5
Q151	C-6

Note on Printed Wiring Boards:
- ○—— : parts extracted from the component side.
- ▒▒▒ : Pattern from the side which enables seeing.

4-2. SCHEMATIC DIAGRAM



Note on Schematic Diagram:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- ▭ : panel designation.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- B+ : B+ Line.
- ▭ : adjustment for repair.
- Voltages are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
  ( ) : MW/LW
  ＊ : Impossible to measure
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM
  ➡ : MW/LW

• Waveform

① IC100 ㉔ (XOUT)

4-3. IC PIN FUNCTION DESCRIPTION

• IC100 LCD CONTROL (μPD17073GB-557-1A7)

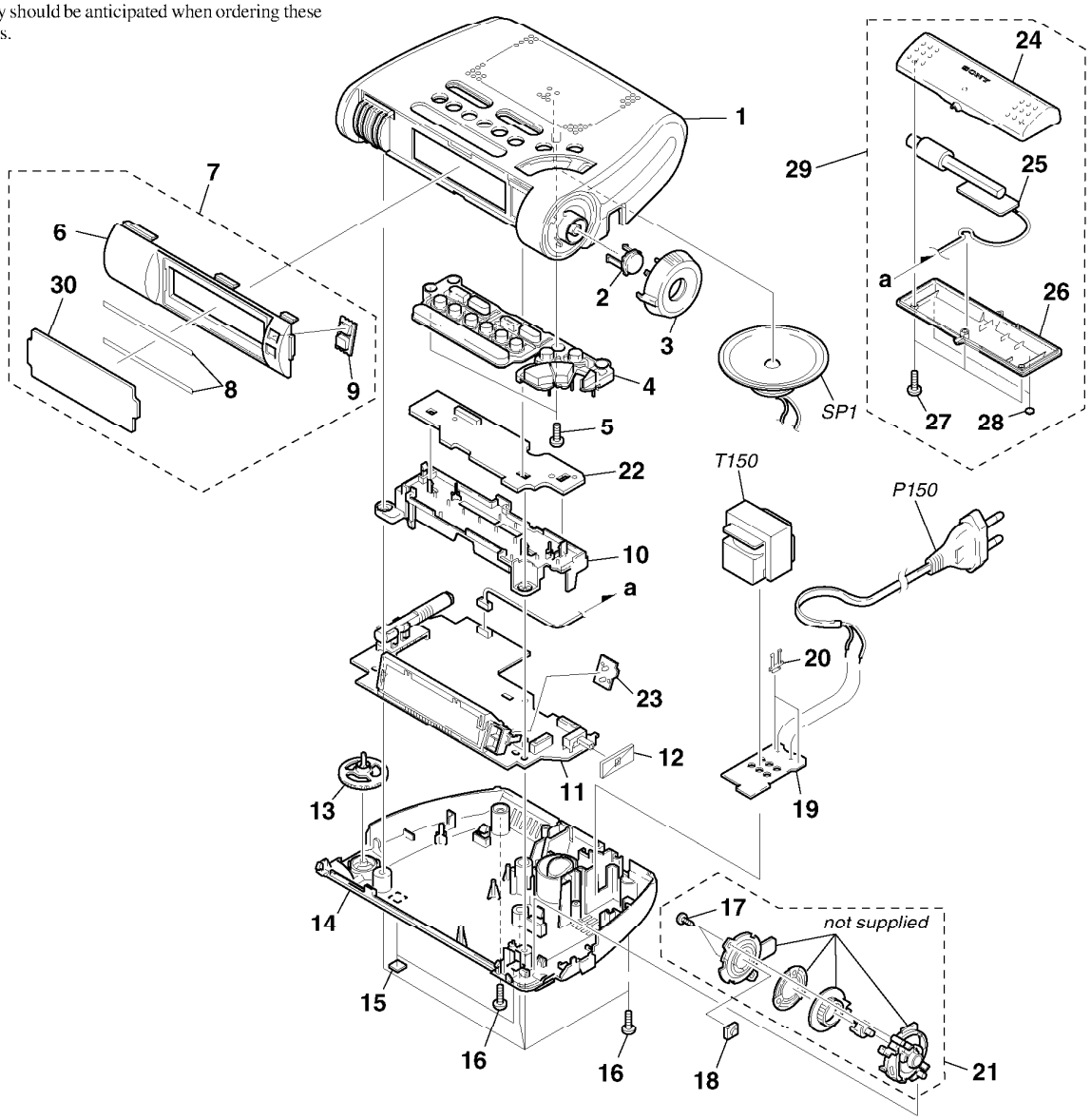
Pin No.	Pin Name	I/O	Description
1	INT OUT	O	Initialization output.
2	MUTE	O	Mute output.
3	BAND1	O	Band output.
4	ALARM A	O	ALARM A indicator.
5	ALARM B	O	ALARM B indicator.
6 to 9	KS0 to KS3	O	Key strove signal.
10 to 13	XR0 to XR3	I	Key return signal.
14	P0	I	ALARM-TIME input.
15 to 17	P1 to P3	I	DIAL signal.
18	GND	–	Ground.
19	E0	O	PLL error output.
20	VCOL	I	LW/MW VCO input.
21	VCOH	I	FM VCO input.
22	Vreg0	–	Regulator.
23	VDD	–	VDD
24	Xout	O	System clock output.
25	Xin	I	System clock input.
26	Vreg1	–	Regulator.
27	VLCD0	–	LCD bubbler.
28, 29	CAP0, CAP1	–	
30	VLCD1	–	
31 to 34	COM0 to COM3	O	LCD drive. Common signal.
35 to 47	LCD0 to LCD12	O	LCD drive. Segment signal.
48, 49	LCD13, LCD14	O	Not used.
50	CE	I	Power failure detection.
51	INT	I	Not used.
52	BEEP	O	Buzzer output.
53	BAND2	O	Band output.
54 to 56	INIT IN	I	Initialization input.

SECTION 5
EXPLODED VIEW

NOTE:

- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Accessories and packing materials are given in the last of this parts list.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.



Ref. No.	Part No.	Description	Remarks
1	3-045-666-51	CABINET (UPPER)	
2	3-045-669-01	KNOB(ALARM)	
3	3-045-670-21	BUTTON (ALARM)	
4	3-045-668-21	BUTTON (MAIN)	
5	7-685-647-79	SCREW+P 3X10 TYPE2 NON-SLIT	
6	3-045-675-11	PANEL, FRONT	
7	X-3379-210-1	PANEL ASSY, FRONT	
8	3-049-387-01	SHEET (WINDOW), ADHESIVE	
9	3-045-677-01	WINDOW (LED)	
10	3-045-672-01	CHASSIS	
* 11	A-3663-591-A	MAIN BOARD, COMPLETE	
12	3-933-547-01	SHEET (BAND)	
13	3-919-268-01	KNOB (VOL)	
14	3-045-655-11	CABINET (LOWER)	
15	3-368-852-01	FOOT	
16	7-685-649-79	SCREW +P3X14 TYPE2 NON-SLIT	

Ref. No.	Part No.	Description	Remarks
18	1-553-856-00	SWITCH, KEYBOARD	
19	1-676-851-11	POWER BOARD	
* 20	1-535-771-11	TERMINAL	
21	A-3638-829-A	DIA L(ALARM) ASSY	
22	1-676-850-11	KEY BOARD	
23	1-676-852-11	LED BOARD	
24	3-038-572-11	BOX (UPPER), ANTENNA	
25	1-674-952-11	FERRITE-ROD ANTENNA BOARD	
26	3-038-573-11	BOX (LOWER), ANTENNA	
27	3-318-203-31	SCREW (B1.7X8), TAPPING	
28	3-040-333-01	FOOT	
29	A-3638-866-A	BOX ASSY, ANT	
30	3-045-676-11	WINDOW (LCD)	
SP1	1-504-748-21	SPEAKER (6.6cm)	
⚠P150	1-555-795-00	CORD, POWER	
⚠T150	1-435-504-11	TRANSFORMER, POWER	

SECTION 6
ELECTRICAL PARTS LIST

FERRITE-ROD ANTENNA

KEY **LED** **MAIN**

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- CAPACITORS:
  uF: µF
- RESISTORS
  All resistors are in ohms.
  METAL: metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F: nonflammable
- COILS
  uH: µH
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA...: µA... , uPA... , µPA... ,
  uPB... , µPB... , uPC... , µPC... ,
  uPD..., µPD...

When indicating parts by reference number, please include the board name.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description			Remarks
	1-674-952-11	FERRITE-ROD ANTENNA BOARD			
		**********			
		< CAPACITOR >			
C451	1-109-982-11	CERAMIC CHIP	1uF	10.00%	10V
C454	1-163-227-11	CERAMIC CHIP	10PF	0.50PF	50V
C455	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C456	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C457	1-163-021-91	CERAMIC CHIP	0.01uF	10.00%	50V
C459	1-136-682-11	FILM	0.0039uF	5.00%	100V
C460	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
		< IC >			
IC451	8-759-599-59	IC U4226B-MFSG3			
		< COIL >			
L401	1-754-082-11	ANTENNA, FERRITE-ROD (LW)			
		< RESISTOR >			
R453	1-216-295-91	SHORT	0		
R456	1-216-295-91	SHORT	0		
R458	1-216-295-91	SHORT	0		
R459	1-216-295-91	SHORT	0		
R460	1-216-097-91	RES-CHIP	100K	5%	1/10W
R461	1-216-121-91	RES-CHIP	1M	5%	1/10W
		< VIBRATOR >			
X451	1-767-219-11	FILTER, CRYSTAL			
**********					
	1-676-850-11	KEY BOARD			
		*********			
		< CONNECTOR >			
* CN200	1-580-187-11	SOCKET, CONNECTOR 8P			
		< JUMPER >			
JC200	1-216-296-91	SHORT	0		
		< SWITCH >			
S200	1-692-014-11	SWITCH, KEY BOARD (+)			
S201	1-692-014-11	SWITCH, KEY BOARD (-)			
S202	1-692-014-11	SWITCH, KEY BOARD (OFF)			
S203	1-692-014-11	SWITCH, KEY BOARD (BAND)			
S204	1-692-014-11	SWITCH, KEY BOARD (ON)			
S205	1-692-014-11	SWITCH, KEY BOARD (M1)			
S206	1-692-014-11	SWITCH, KEY BOARD (M2)			
S207	1-692-014-11	SWITCH, KEY BOARD (M3)			
S208	1-692-014-11	SWITCH, KEY BOARD (M4)			
S209	1-692-014-11	SWITCH, KEY BOARD (M5)			
S210	1-692-014-11	SWITCH, KEY BOARD (D.S.T)			
S211	1-692-014-11	SWITCH, KEY BOARD (SNOOZE)			
S212	1-692-014-11	SWITCH, KEY BOARD (A-RESET)			
S213	1-692-014-11	SWITCH, KEY BOARD (CLOCK)			
S214	1-692-014-11	SWITCH, KEY BOARD (TIME+)			
S215	1-692-014-11	SWITCH, KEY BOARD (TIME-)			
**********					
	1-676-852-11	LED BOARD			
		*********			
		< DIODE >			
D9	8-719-079-31	LED SLI-342YCT32-RS (B)			
D10	8-719-079-31	LED SLI-342YCT32-RS (A)			
**********					
*	A-3663-591-A	MAIN BOARD, COMPLETE			
		**********			
		< FILTER >			
BPF1	1-236-022-11	FILTER, BAND PASS			
		< CAPACITOR >			
C1	1-163-253-11	CERAMIC CHIP	120PF	5.00%	50V
C2	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C3	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C4	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C5	1-163-021-91	CERAMIC CHIP	0.01uF	10.00%	50V
C6	1-163-227-11	CERAMIC CHIP	10PF	0.50PF	50V
C7	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C8	1-126-964-11	ELECT	10uF	20.00%	50V
C9	1-126-963-11	ELECT	4.7uF	20.00%	50V
C10	1-126-964-11	ELECT	10uF	20.00%	50V
C11	1-163-085-00	CERAMIC CHIP	2PF		50V
C13	1-163-021-91	CERAMIC CHIP	0.01uF	10.00%	50V
C14	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C15	1-164-489-11	CERAMIC CHIP	0.22uF	10.00%	16V
C16	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C17	1-163-021-91	CERAMIC CHIP	0.01uF	10.00%	50V
C18	1-163-021-91	CERAMIC CHIP	0.01uF	10.00%	50V
C19	1-128-551-11	ELECT	22uF	20.00%	25V
C20	1-163-021-91	CERAMIC CHIP	0.01uF	10.00%	50V
C21	1-163-231-11	CERAMIC CHIP	15PF	5.00%	50V

MAIN

Ref. No.	Part No.	Description			Remarks
C23	1-163-132-00	CERAMIC CHIP	430PF	5.00% 50V	
C24	1-126-960-11	ELECT	1uF	20.00% 50V	
C25	1-126-934-11	ELECT	220uF	20.00% 10V	
C26	1-163-263-11	CERAMIC CHIP	330PF	5.00% 50V	
C27	1-163-021-91	CERAMIC CHIP	0.01uF	10.00% 50V	
C28	1-109-982-11	CERAMIC CHIP	1uF	10.00% 10V	
C29	1-109-982-11	CERAMIC CHIP	1uF	10.00% 10V	
C30	1-126-934-11	ELECT	220uF	20.00% 10V	
C31	1-163-021-91	CERAMIC CHIP	0.01uF	10.00% 50V	
C32	1-163-009-11	CERAMIC CHIP	0.001uF	10% 50V	
C33	1-110-501-11	CERAMIC CHIP	0.33uF	10.00% 16V	
C34	1-163-125-00	CERAMIC CHIP	220PF	5% 50V	
C35	1-163-009-11	CERAMIC CHIP	0.001uF	10% 50V	
C37	1-163-021-91	CERAMIC CHIP	0.01uF	10.00% 50V	
C38	1-163-259-91	CERAMIC CHIP	220PF	5.00% 50V	
C39	1-163-009-11	CERAMIC CHIP	0.001uF	10% 50V	
C100	1-163-133-00	CERAMIC CHIP	470PF	5% 50V	
C101	1-163-133-00	CERAMIC CHIP	470PF	5% 50V	
C102	1-163-133-00	CERAMIC CHIP	470PF	5% 50V	
C103	1-163-133-00	CERAMIC CHIP	470PF	5% 50V	
C104	1-163-009-11	CERAMIC CHIP	0.001uF	10% 50V	
C105	1-163-133-00	CERAMIC CHIP	470PF	5% 50V	
C106	1-163-133-00	CERAMIC CHIP	470PF	5% 50V	
C107	1-163-133-00	CERAMIC CHIP	470PF	5% 50V	
C108	1-126-916-11	ELECT	1000uF	20.00% 6.3V	
C109	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C110	1-164-346-11	CERAMIC CHIP	1uF	16V	
C111	1-163-108-00	CERAMIC CHIP	43PF	5% 50V	
C112	1-163-233-11	CERAMIC CHIP	18PF	5.00% 50V	
C113	1-163-021-91	CERAMIC CHIP	0.01uF	10.00% 50V	
C114	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C115	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C116	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C117	1-163-021-91	CERAMIC CHIP	0.01uF	10.00% 50V	
C118	1-163-022-00	CERAMIC CHIP	0.012uF	10% 50V	
C119	1-163-021-91	CERAMIC CHIP	0.01uF	10.00% 50V	
C120	1-163-251-11	CERAMIC CHIP	100PF	5.00% 50V	
C151	1-163-021-91	CERAMIC CHIP	0.01uF	10.00% 50V	
C152	1-163-021-91	CERAMIC CHIP	0.01uF	10.00% 50V	
C153	1-163-021-91	CERAMIC CHIP	0.01uF	10.00% 50V	
C154	1-163-021-91	CERAMIC CHIP	0.01uF	10.00% 50V	
C155	1-163-021-91	CERAMIC CHIP	0.01uF	10.00% 50V	
C156	1-126-927-11	ELECT	2200uF	20.00% 10V	
C157	1-104-666-11	ELECT	220uF	20.00% 25V	
C158	1-126-934-11	ELECT	220uF	20.00% 10V	
C159	1-163-009-11	CERAMIC CHIP	0.001uF	10% 50V	
		< FILTER >			
CF1	1-578-677-21	FILTER, CRYSTAL 450kHz			
CF2	1-579-632-41	FILTER, CERAMIC 10.7MHz			
CF3	1-579-632-41	FILTER, CERAMIC 10.7MHz			
		< CONNECTOR >			
CN2	1-568-269-11	SOCKET, CONNECTOR 3P			
* CN150	1-568-270-11	SOCKET, CONNECTOR 4P			
* CN201	1-568-271-11	SOCKET, CONNECTOR 5P			
* CN202	1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P			

Ref. No.	Part No.	Description	Remarks
		< TRIMMER >	
CT1	1-141-601-21	CAP, ADJ	
CT2	1-141-605-11	CAP, ADJ	
CT3	1-141-601-21	CAP, ADJ	
CT4	1-141-605-11	CAP, ADJ	
		< DIODE >	
D1	8-719-023-99	DIODE KV1563MTL-2,3	
D2	8-713-100-11	DIODE 1T362-04-T8A	
D3	8-713-100-11	DIODE 1T362-04-T8A	
D5	8-719-079-31	LED SLI-342YCT32-RS (BACK LIGHT)	
D6	8-719-079-31	LED SLI-342YCT32-RS (BACK LIGHT)	
D7	8-719-079-31	LED SLI-342YCT32-RS (BACK LIGHT)	
D8	8-719-079-31	LED SLI-342YCT32-RS (BACK LIGHT)	
D100	8-719-074-44	DIODE 1SS120RX	
D101	8-719-074-44	DIODE 1SS120RX	
D151	8-719-074-44	DIODE 1SS120RX	
D152	8-719-031-85	DIODE 1N4002L	
D153	8-719-031-85	DIODE 1N4002L	
D154	8-719-031-85	DIODE 1N4002L	
D155	8-719-031-85	DIODE 1N4002L	
D156	8-719-976-99	DIODE UDZ-TE-17-5.1B	
		< IC >	
IC1	8-752-050-16	IC CXA1019M-T6	
IC100	8-759-662-01	IC uPD17073GB-557-1A7	
		< JUMPER >	
JC2	1-216-295-91	SHORT 0	
JC3	1-216-296-91	SHORT 0	
JC4	1-216-296-91	SHORT 0	
JC5	1-216-295-91	SHORT 0	
JC8	1-216-296-91	SHORT 0	
JC9	1-216-296-91	SHORT 0	
JC11	1-216-296-91	SHORT 0	
JC12	1-216-296-91	SHORT 0	
JC13	1-216-296-91	SHORT 0	
JC14	1-216-296-91	SHORT 0	
JC15	1-216-296-91	SHORT 0	
JC16	1-216-296-91	SHORT 0	
JC17	1-216-296-91	SHORT 0	
JC18	1-216-296-91	SHORT 0	
JC19	1-216-296-91	SHORT 0	
JC20	1-216-296-91	SHORT 0	
JC21	1-216-296-91	SHORT 0	
JC22	1-216-296-91	SHORT 0	
JC23	1-216-295-91	SHORT 0	
JC24	1-216-295-91	SHORT 0	
JC25	1-216-296-91	SHORT 0	
JC27	1-216-295-91	SHORT 0	
JC102	1-216-295-91	SHORT 0	
JC107	1-216-295-91	SHORT 0	
JC110	1-216-296-91	SHORT 0	
JC111	1-216-296-91	SHORT 0	
JC112	1-216-296-91	SHORT 0	
JC114	1-216-296-91	SHORT 0	
JC115	1-216-296-91	SHORT 0	
JC116	1-216-296-91	SHORT 0	

Ref. No.	Part No.	Description		Remarks
JC117	1-216-296-91	SHORT	0	
JC119	1-216-296-91	SHORT	0	
JC120	1-216-296-91	SHORT	0	
JC121	1-216-296-91	SHORT	0	
JC122	1-216-296-91	SHORT	0	
JC123	1-216-296-91	SHORT	0	
JC124	1-216-296-91	SHORT	0	
JC125	1-216-296-91	SHORT	0	
JC126	1-216-296-91	SHORT	0	
JC127	1-216-296-91	SHORT	0	
JC128	1-216-296-91	SHORT	0	
JC129	1-216-296-91	SHORT	0	
JC130	1-216-295-91	SHORT	0	
JC131	1-216-296-91	SHORT	0	
JC132	1-216-295-91	SHORT	0	
JC133	1-216-296-91	SHORT	0	
JC134	1-216-295-91	SHORT	0	
JC135	1-216-296-91	SHORT	0	
JC136	1-216-296-91	SHORT	0	
JC143	1-216-296-91	SHORT	0	
JC144	1-216-296-91	SHORT	0	
JC151	1-216-296-91	SHORT	0	
JC153	1-216-296-91	SHORT	0	
JC154	1-216-296-91	SHORT	0	
JC155	1-216-296-91	SHORT	0	
JC156	1-216-296-91	SHORT	0	
JC157	1-216-296-91	SHORT	0	
JC158	1-216-296-91	SHORT	0	
JC159	1-216-296-91	SHORT	0	
JC160	1-216-296-91	SHORT	0	
JC161	1-216-296-91	SHORT	0	
JC162	1-216-296-91	SHORT	0	
JC301	1-216-296-91	SHORT	0	
		< COIL >		
L1	1-406-485-11	COIL (OSC)		
L2	1-414-690-11	INDUCTOR	82nH	
L3	1-406-545-11	COIL, AIR-CORE		
L4	1-501-715-11	ANTENNA, FERRITE-ROD (LW/MW)		
		< LIQUID CRYSTAL DISPLAY >		
LCD100	1-803-947-11	DISPLAY PANEL, LIQUID CRYSTAL		
		< IC LINK >		
PS150	1-533-588-11	LINK, IC		
		< TRANSISTOR >		
Q1	8-729-102-07	TRANSISTOR	2SC2223-T1F13	
Q2	8-729-102-07	TRANSISTOR	2SC2223-T1F13	
Q3	1-801-806-11	TRANSISTOR	DTC144EKA-T146	
Q4	8-729-120-28	TRANSISTOR	2SC1623-T1L6	
Q5	8-729-102-07	TRANSISTOR	2SC2223-T1F13	
Q6	8-729-216-22	TRANSISTOR	2SA812-T1-M5M6	
Q7	8-729-120-28	TRANSISTOR	2SC1623-T1L6	
Q8	8-729-120-28	TRANSISTOR	2SC1623-T1L6	
Q9	8-729-120-28	TRANSISTOR	2SC1623-T1L6	
Q10	8-729-120-28	TRANSISTOR	2SC1623-T1L6	

Ref. No.	Part No.	Description			Remarks
Q100	8-729-216-22	TRANSISTOR	2SA812-T1-M5M6		
Q101	1-801-806-11	TRANSISTOR	DTC144EKA-T146		
Q151	8-729-840-00	TRANSISTOR	2SD400E-MP-AE		
		< RESISTOR >			
R1	1-216-133-00	METAL CHIP	3.3M	5%	1/10W
R2	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3	1-216-097-91	RES-CHIP	100K	5%	1/10W
R5	1-216-049-91	RES-CHIP	1K	5%	1/10W
R6	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R7	1-216-037-00	METAL CHIP	330	5%	1/10W
R9	1-216-097-91	RES-CHIP	100K	5%	1/10W
R10	1-216-089-91	RES-CHIP	47K	5%	1/10W
R11	1-216-073-00	METAL CHIP	10K	5%	1/10W
R12	1-216-037-00	METAL CHIP	330	5%	1/10W
R13	1-216-121-91	RES-CHIP	1M	5%	1/10W
R14	1-216-017-91	RES-CHIP	47	5%	1/10W
R16	1-216-081-00	METAL CHIP	22K	5%	1/10W
R17	1-216-037-00	METAL CHIP	330	5%	1/10W
R18	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R19	1-216-073-00	METAL CHIP	10K	5%	1/10W
R20	1-216-105-91	RES-CHIP	220K	5%	1/10W
R21	1-216-073-00	METAL CHIP	10K	5%	1/10W
R22	1-216-097-91	RES-CHIP	100K	5%	1/10W
R23	1-216-073-00	METAL CHIP	10K	5%	1/10W
R24	1-216-029-00	METAL CHIP	150	5%	1/10W
R25	1-216-033-00	METAL CHIP	220	5%	1/10W
R26	1-216-033-00	METAL CHIP	220	5%	1/10W
R27	1-216-033-00	METAL CHIP	220	5%	1/10W
R28	1-216-033-00	METAL CHIP	220	5%	1/10W
R29	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R30	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R100	1-216-097-91	RES-CHIP	100K	5%	1/10W
R101	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R103	1-216-089-91	RES-CHIP	47K	5%	1/10W
R104	1-216-097-91	RES-CHIP	100K	5%	1/10W
R105	1-216-097-91	RES-CHIP	100K	5%	1/10W
R106	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R107	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R108	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R109	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R110	1-216-073-00	METAL CHIP	10K	5%	1/10W
R111	1-216-001-00	METAL CHIP	10	5%	1/10W
R113	1-216-113-00	METAL CHIP	470K	5%	1/10W
R114	1-216-113-00	METAL CHIP	470K	5%	1/10W
R117	1-216-089-91	RES-CHIP	47K	5%	1/10W
R118	1-216-089-91	RES-CHIP	47K	5%	1/10W
R119	1-216-089-91	RES-CHIP	47K	5%	1/10W
R120	1-216-089-91	RES-CHIP	47K	5%	1/10W
R123	1-216-049-91	RES-CHIP	1K	5%	1/10W
R151	1-216-049-91	RES-CHIP	1K	5%	1/10W
R152	1-216-041-00	METAL CHIP	470	5%	1/10W
R153	1-216-105-91	RES-CHIP	220K	5%	1/10W
		< SWITCH >			
S1	1-692-181-31	SWITCH, SLIDE (BRIGHTNESS)			

MAIN **POWER**

Ref. No.	Part No.	Description	Remarks
		< TRANSFORMER >	
T1	1-404-790-11	TRANSFORMER, IF	
		< VARIABLE RESISTOR >	
VR1	1-228-790-00	RES, VAR, CARBON 50K (VOL)	
		< VIBRATOR >	
X100	1-767-517-11	VIBRATOR, CRYSTAL 75kHz	
**********			
	1-676-851-11	POWER BOARD	
		**********	
*	1-535-771-11	TERMINAL	
		< TRANSFORMER >	
⚠T150	1-435-504-11	TRANSFORMER, POWER	
**********			

Ref. No.	Part No.	Description	Remarks
		MISCELLANEOUS	
		**********	
18	1-553-856-00	SWITCH, KEYBOARD	
* 20	1-535-771-11	TERMINAL	
25	1-674-952-11	FERRITE-ROD ANTENNA BOARD	
SP1	1-504-748-21	SPEAKER (6.6cm)	
⚠P150	1-555-795-00	CORD, POWER	
**********			
		ACCESSORIES & PACKING MATERIALS	
		**********	
	3-046-171-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, GERMAN, DUTCH)	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

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